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### INSPEC - 1969 to date (INZZ)

#### Accession number & update

6423449, B2000-01-4150D-015; 19991201.

#### Title

Enhanced dynamic response of the in-plane **switching liquid crystal** display mode through polymer stabilization.

#### Author(s)

[Escuti-M-J](#); [Bowley-C-C](#); [Crawford-G-P](#); [Zumer-S](#).

#### Author affiliation

Dept of Phys, Brown Univ, Providence, RI, USA.

#### Source

Applied-Physics-Letters (USA), vol.75, no.21, p.3264-6, 22 Nov. 1999. , Published: AIP.

#### CODEN

APPLAB.

#### ISSN

ISSN: 0003-6951, CCCC: 0003-6951/99/75(21)/3264(3)/ (\$15.00).

#### Availability

SICI: 0003-6951(19991122)75:21L.3264:EDRP; 1-J

Electronic Journal Document Number: S0003-6951(99)02847-8.

#### Publication year

1999.

#### Language

EN.

#### Publication type

J Journal Paper.

#### Treatment codes

X Experimental.

#### Abstract

A significant improvement in the dynamic response time of the in-plane **switching nematic liquid crystal** mode, useful in flat-panel display applications, is achieved through polymer stabilization. This improvement is achieved by introducing a low-density, stabilizing polymer network that causes the nematic director to favor the zero-field orientation at the expense of transmission and slightly higher drive voltages. We present a simple model that treats the polymer network as an effective field in the general framework of elastic continuum theory. (16 refs).

**Descriptors**

flat-panel-displays; liquid-crystal-displays; nematic-liquid-crystals; polymer-dispersed-liquid-crystals.

**Keywords**

enhanced dynamic response; **inplane switching liquid crystal** display mode; polymer stabilization; dynamic response time; nematic **liquid crystal** mode; flat panel display; low density stabilizing polymer network; nematic director; zero field orientation; elastic continuum theory; NLC.

**Classification codes**

B4150D (**Liquid crystal** devices).

B7260B (Display materials).

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### INSPEC - 1969 to date (INZZ)

#### Accession number & update

6244772, B1999-06-7260D-041; 19990501.

#### Title

Optically compensated **in-plane-switching-mode** TFT-LCD panel.

#### Author(s)

Saitoh-Y; Kimura-S; Kusafuka-K; Shimizu-H.

#### Author affiliation

IBM Display Bus Unit, Kanagawa, Japan.

#### Source

Proceedings of SID'98. International Symposium, Anaheim, CA, USA, 17-22 May 1998.  
In: p.706-9, 1998.

#### ISSN

CCCC: 0098-0966X/98/2901-0706- (\$1.00+.00).

#### Publication year

1998.

#### Language

EN.

#### Publication type

CPP Conference Paper.

#### Treatment codes

P Practical.

#### Abstract

An optically compensated **in-plane-switching-mode** TFT-LCD panel was developed. The panel has an optical compensation film between a **liquid crystal** layer and a polarizer, and shows a significantly high-contrast viewing angle, good gray-scale capability, small color shift, and a large tolerance for cell gap non-uniformity compared with a conventional **inplane-switching-mode** LCD. (13 refs).

#### Descriptors

[compensation](#); [liquid-crystal-displays](#); [optical-films](#); [thin-film-transistors](#).

#### Keywords

TFT LCD panel; optical compensation film; polarizer; high contrast viewing angle; gray scale capability; color shift; cell gap non uniformity; in plane **switching** mode LCD.

#### Classification codes

B7260D (Display characteristics).  
B2560R (Insulated gate field effect transistors).  
B4150D (**Liquid crystal** devices).

B4190F (Optical coatings and filters).

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1999. (INZZ) Enhanced dynamic response of the in-plane **switching liquid crystal** display mode through polymer stabilization.

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1998. (INZZ) Optically compensated **in-plane-switching-mode** TFT-LCD panel.

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1998. (INZZ) Comment on "Kink **switching** in ferroelectric free-standing films with high spontaneous polarization".

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1996. (INZZ) Command layers with high azimuthal anisotropy: static and dynamic behavior.

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